

1 0 INTRODUCTION

The purpose of this Sampling and Analysis Plan (SAP) is to collect samples from drums containing surficial and subsurface soils contaminated with radionuclides from the Contaminated Soil Feed Stockpile (CSFS) in the East Trenches area. This data will be used to determine how to disposition the drummed material onsite. The objective of the SAP is to describe the specific data needs, sampling and analysis requirements, data handling procedures, and associated Quality Assurance/Quality Control (QA/QC) requirements for this project. All work will be performed in accordance with the RMRS Quality Assurance Program Description (QAPD) (RMRS 1997).

1 1 Background

Drum carcasses excavated from Trenches T3 and T4 were stored at the CSFS, then disposed of as part of a previous action. It is assumed that a small quantity of uranium-238 was released onto the ground surface. Recent surveys revealed the presence of small quantities of uranium-238 in the near-surface soil. This contaminated soil was removed and placed into three drums which will be dispositioned according to their characterization results. Preliminary results of a sample taken from this near-surface soil indicates that the soil contains uranium-238.

2 0 PROJECT AND DATA QUALITY OBJECTIVES

The objective of this SAP is to characterize the material in the drums sufficiently for dispositioning the drummed material. As the contaminants of concern for the T3/T4 project were radionuclides and volatile organic compounds (VOCs), the drummed materials will be analyzed for these constituents. Data requirements to support this project were developed using criteria established in *Guidance for the Data Quality Objective Process*, EPA QA/G-4 (EPA 1994).

Table 1 Analytical Sampling Requirements

Analysis Method	Number of Field Samples	Number of QC Samples	Total Number Samples	Containers, Preservatives, Holding Times
Total VOCs by SW846/8260A	3	1 duplicate (1 per 20 samples)	5	250 ml wide mouth, teflon lined, glass jar, 4° C, 14 days for soils
Radionuclides by Gamma Spectroscopy	3	1 duplicate (1 per 20 samples)	4	250 ml wide mouth glass jar, NA, 6 months

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Each drum contains up to 6 individual plastic bags of near-surface soil. For the radiological analyses, a representative sample will be collected from each bag in a drum, and composited to adequately reflect the composition of the drummed material sufficiently for dispositioning each drum. For the VOC analyses, one sample per drum will be collected from a single bag. VOC samples will not be composited.

3.0 SAMPLING AND ANALYSES

The sampling requirements for each type of sample event to be performed under this SAP are described in Table 1 and in the following sections. Samples will be handled in accordance with FO 10 Receiving, Labeling, and Handling Environmental Material Containers, and FO 13 Containerization, Preserving, Handling and Shipping of Soil and Water Samples. Disposable sampling tools will be used wherever possible to eliminate decontamination waste streams.

If conditions are encountered in the field which make the use of a procedure unsafe or inappropriate for the task at hand, the specified procedures may be modified or replaced as long as the modification or replacement procedure is justified and detailed in the field logbook, and the resulting data is comparable and adequate to meet the objectives of the project.

Before data collection begins, plastic will be placed under each drum and under the sample equipment. The lid of each drum will be removed as per FO 20 Sampling of Environmental Containers. The closure on the inner liner or liners will be removed and disposed of properly. The plastic bags of soil will be removed and placed on the plastic. The individual plastic bags will be split open using an Exacto knife or similar tool.

From only one bag within each drum, a VOC sample will be collected using a plastic scoop, stainless steel trowel, spoon or similar implement as per FO 20 Sampling of Environmental Containers, however without compositing the sample. From all of the bags within one drum, a plastic scoop, a stainless steel trowel, spoon or similar implement will be used to collect a sample of soil from each bag as per FO 20 Sampling of Environmental Containers. The sample from each bag in a drum will be placed in a plastic bag, or a stainless steel bowl, and composited. Then a representative sample will be collected and placed in the sample bottle.

The individual bags of soil, disposable sampling tools, and the remaining composited material will be placed back into the appropriate drum. The plastic sheeting under the drum and sampling equipment, along with any spilled material will also be placed inside any drum with sufficient space. Then, the liner and drum will be closed as per 5-23000-WRP-WO-1101 Solid Radioactive Waste Packaging Outside the PA. All sampling equipment will be decontaminated between drums and at the end of the project as per FO 3 General Equipment Decontamination. Drum sampling will be conducted as per FO 20 Sampling of Environmental Containers.

4.0 DATA MANAGEMENT

A field logbook will be maintained for the project by the project manager or their designee in accordance with ER-ADM-05.14 Use of Field Logbooks and Forms. The logbook will be used in conjunction with the appropriate field data forms required by the operating procedures (Table 2) governing the field activities occurring during this project. It is not necessary to duplicate items recorded on field data forms in the field logbook, but if additional clarification of entries on the forms is required, they should be recorded in the field logbook. The field logbook should include time and date information concerning the field activities. Information not specifically required by the field data forms should be recorded in the field logbook.

Data for this project will be collected, entered, and stored in a secure, controlled, and retrievable environment in accordance with 2-G18-ER-ADM-17.01 Records Capture and Transmittal.

Table 2 Applicable Field and Administrative Standard Operating Procedures

Procedure Number	Procedure Title
2-G18-ER-ADM-17.01	Records Capture and Transmittal
2-S47-ER-ADM-05.14	Use of Field Logbooks and Forms
5-21000-OPS-FO 3	General Equipment Decontamination
5-21000-OPS-FO 6	Handling of Personal Protective Equipment
5-21000-OPS-FO 7	Handling of Decontaminated Water and Waste Water
5-21000-OPS-FO 10	Receiving, Labeling, and Handling Environmental Material Containers
5-21000-OPS-FO 11	Field Communications
5-21000-OPS-FO 13	Containerization, Preserving, Handling and Shipping of Soil and Water Samples
5-21000-OPS-FO 16	Field Radiological Measurements
5-21000-OPS-FO 20	Sampling of Environmental Containers
5-23000-WRP-WO-1101-	Solid Radioactive Waste Packaging Outside the PA

4 1 Project Completion

The results will be compiled and placed in the project files. At the end of the project, all records and field documentation will be turned over to the records center.

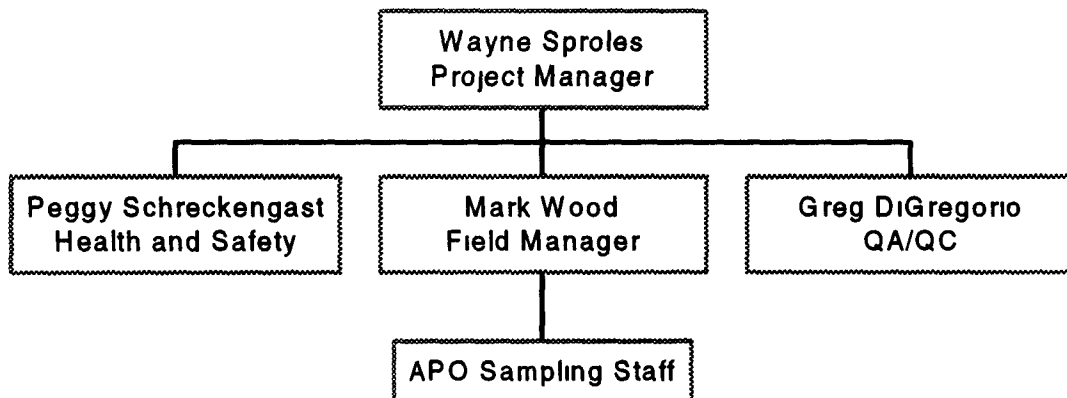
4 2 Quality Assurance

Analytical data collected in support of this investigation will be evaluated using the guidance established by the Rocky Flats Administrative Procedure 2-G32-ER-ADM-08 02 Evaluation of ERM Data for Usability in Final Reports. This procedure establishes the guidelines for evaluating analytical data with respect to precision, accuracy, representativeness, completeness, and comparability (PARCC) parameters. For precision, typically the relative percent difference between samples and duplicates are less than or equal to 40% for soil. Accuracy of the laboratories is the responsibility of EPA. Comparability is not applicable to this project. Completeness will be evaluated by comparing the proposed to the actual field program. For the purpose of this SAP, the project will be considered complete after collection of 100% of the samples.

5 0 PROJECT ORGANIZATION

The project organization chart is presented in Figure 1. The ER Projects Group is responsible for management and coordination of resources dedicated to the project. Other organizations assisting with the implementation of this project are RMRS Groundwater, RMRS Health and Safety, and RMRS Quality Assurance.

Figure 1 Drum Sampling Project Organization



60 REFERENCES

EPA, 1992, *US EPA Test Methods for Evaluating Solid Waste*, Solid Waste-846, third edition, Method 8260A, Rev 1, November

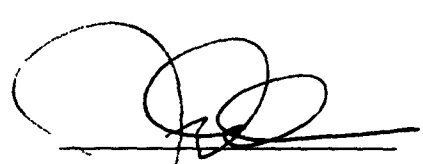
EPA, 1994, *Guidance for the Data Quality Objectives Process*, EPA QA/G-4, September

RMRS, 1997, *RMRS Quality Assurance Program Description*, RMRS-QAPD-001, Rev 1, January

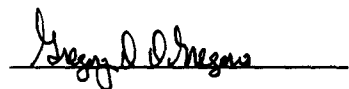
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